

HILL FIELD, AIRCRAFT ACCESSORY REPAIR SHOP  
(HILL FIELD, BUILDING 205)  
(HILL FIELD, WAREHOUSE #13)  
(HILL FIELD, BUILDING 105)  
5925 Southgate Avenue  
Layton Vicinity  
Davis County  
Utah

**HAER No. UT-85-M**

HAER  
UTAH  
6-LAY.V,  
2M-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

**Historic American Engineering Record  
National Park Service  
Department of the Interior  
Denver, Colorado 80225-0287**

# HISTORIC AMERICAN ENGINEERING RECORD

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**Location:** 5925 Southgate Avenue, Hill Air Force Base, Layton Vicinity, Davis County, Utah

**UTM:** 12-418080-4552090

**Date of Construction:** 1942

**Architect:** U.S. Army Corps of Engineers-Engineer Office (Los Angeles, CA)

**Builder:** Unknown

**Present Owner:** Hill Air Force Base

**Present Use:** Maintenance

**Significance:** Airplane brakes and wheels were repaired in Building 205 of the Ogden Air Materiel Command (OOAMA, later Hill Field/Hill Air Force Base) during and after World War II. This building provides particularly vivid images of the processes involved in the repair and maintenance of aircraft, a crucial component of Hill Field's overall mission to support Pacific and European theaters of military operation during World War II. In addition, it contributes to a deeper understanding of the early development of the U.S. Army Air Corps, a branch of the Army which eventually became the U.S. Air Force. Hill Field was one of only two air depots established in the United States during the tumultuous years immediately preceding World War II.

**History:** Building 205 was built to support operations conducted in Building 225, the nearby airplane repair hangar. Though originally intended as a supply warehouse for the signal corps, the building was actually housed the Hydraulic Repair Branch. Aircraft wheels and brakes were removed from planes in the Aircraft Repair Hangars (Building 225) and brought to Building 205 for disassembly and complete overhaul. Completed wheels and brakes were then transferred back to the Repair Hangars where they were reinstalled on aircraft.

The Hydraulic Repair Branch was established in January 1942, under the supervision of Mr. D.D. Flegal. Their original mission was to overhaul and repair aircraft wheels, brakes, and struts. Due to a large backlog of reparable items on the field and the extremely limited stock of replacements, however, their mission was soon expanded to include all types of hydraulic and vacuum pumps, valves, cylinders, and accumulators. Test stands were manufactured on Hill Field to hold hydraulic testing equipment.

Workers in Building 205 disassembled and repaired or replaced brake rotors and pads. The brakes on pre-World War II aircraft were drum type, but the newer (World War II era) aircraft had brakes with disks. These newer brakes were "anti-skid," which prevented the wheels from locking and tires from blowing out. The system was similar to anti-lock brakes that are commonly used in modern cars today. Both types of brakes were repaired in Building 205.

The shop also repaired wheels, for which the major problem was oxidation. Since the wheels were usually made of magnesium, they had a tendency to pock. After repair, the wheels were painted or anodized to prevent corrosion and then tested.

Building 205 also housed the Rubber Repair Branch during World War II. A new "Vita-Cap" Chamber was introduced to the Rubber Repair Branch in mid-1945. This increased production of tires and tubes 50%, and allowed odd size tires and tubes to be repaired at Hill Field for the first time. The chamber capacity of the new equipment accommodated either three 56" tires or five tubes to be repaired simultaneously.

Quotas set by Air Command were rarely met in the beginning months of World War II. Materials were often difficult to obtain and the majority of special tools were unobtainable and had to be designed and manufactured on the Base. As the war progressed, the obstacles began to subside. A shortage of special parts, tools, equipment, and adequate working space continued to present challenges, but in gradually reduced proportion. Many items continued to be manufactured by the depot shops as the needs for them became sufficiently urgent.

In efforts to increase efficient production methods, all aircraft repair activities were carefully monitored and controlled by the Production Control Branch. The status of aircraft and parts could be accurately determined at any of the various stages of production. The Branch obtained and disseminated technical information to workers and handled technical correspondence, including all

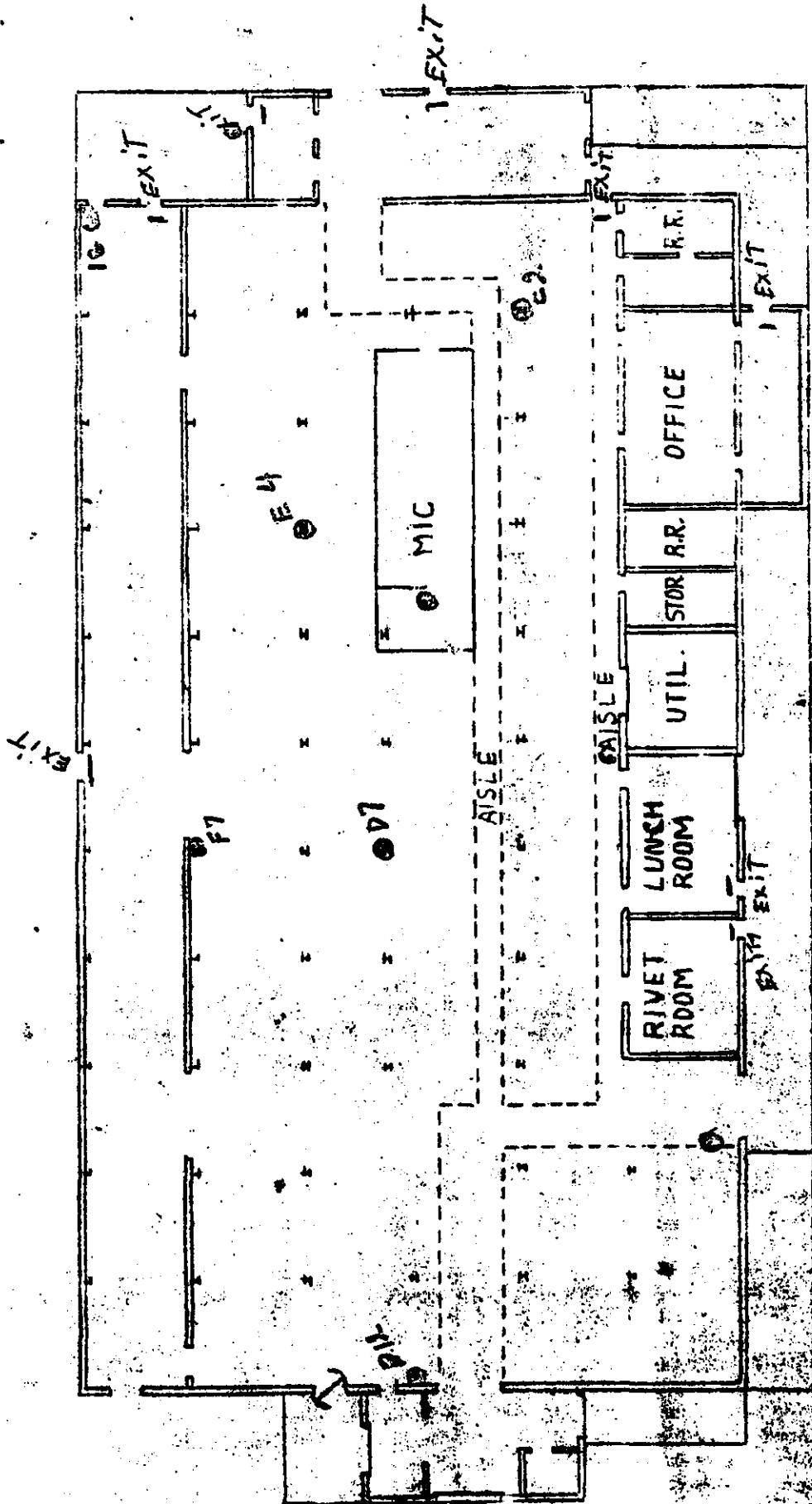
official long distance telephone calls pertaining to the engineering department. As the Production Control Branch gathered statistics, employees and materials could be more efficiently allocated among the departments.

Coordination between departments came gradually as the units began to understand their relationship to each other and as specialized labor and production line methods became widespread. Even with careful planning, though, operations progressed at different rates in each department. Frequent rush orders or parts shortages caused congestion in the production lines that disrupted the interdepartmental flow.

#### **General**

**Description:** Building 205 is a one-story, rectangular industrial structure with no discernable stylistic features. The original portion of the building is constructed of six-course American bond brick. All of the original steel sash industrial windows have either been infilled with brick or replaced with modern fixed, plate glass windows. A concrete floor sits on top of a concrete foundation which has an exposed water table approximately ten inches above finished grade. The building has a low gable roof oriented in the north/south direction. The roof slope is only 1-1/2:12. The building has a continuous metal ridge vent.

The shop's basic massing has been slightly altered with lean-to and shed additions to the north, south and west walls, all constructed of wood frame. On the southwest corner, a loading platform and dock space have been added to the shop.



BLDG 205